

STEVAL-ISA083V1

4 A peak 800 kHz fixed-frequency PWM synchronous step-down demonstration board with enable on/off based on the ST1S40IPUR

Data brief

Features

■ Input voltage V_{in}: 4 V to 18 V

■ Output voltage V_{out}: 3.3 V

Maximum output current: 4 A

Switching frequency: 800 kHz

Short-circuit protected

■ RoHS compliant

Description

The STEVAL-ISA083V1, based on the ST1S40IPUR, is an internally compensated 800 kHz fixed-frequency PWM synchronous stepdown converter demonstration board.

The ST1S40 operates from 4.0 V to 18.0 V input, while it regulates an output voltage as low as 0.8 V and up to V_{IN} (100% duty cycle).

The ST1S40 integrates a 95 m Ω high-side switch and a 69 m Ω synchronous rectifier allowing very high efficiency with very low output voltage.

The peak current mode control with internal compensation delivers a very compact solution with a minimum component count.

The ST1S40 is protected through cycle-by-cycle current limiting in case of overload and is also protected by a current foldback function with frequency reduction in case of short-circuit.

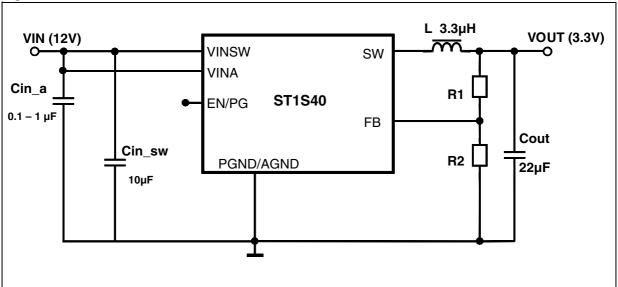
The device is available with an enable on/off function.



Schematic STEVAL-ISA083V1

1 Schematic

Figure 1. Circuit schematic



STEVAL-ISA083V1 Revision history

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
27-Sep-2011	1	Initial release.

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